B.E. Fourth Semester (Information Technology) (C.B.S.)
Object Oriented Methodology

_____

Notes :   1.   All questions carry marks as indicated.
2.   Solve Question 1 OR Questions No. 2.
3.   Solve Question 3 OR Questions No. 4.
4.   Solve Question 5 OR Questions No. 6.
5.   Solve Question 7 OR Questions No. 8.
6.   Solve Question 9 OR Questions No. 10.
7.   Solve Question 11 OR Questions No. 12.
8.   Due credit will be given to neatness and adequate dimensions.
9.   Assume suitable data whenever necessary.
10. Diagrams and chemical equations should be given whenever necessary.
11. Illustrate your answers whenever necessary with the help of neat sketches.
12. Use of non programmable calculator is permitted.

1. a)   What is model ? What purposes does a model serve ?   **7**

b)   Define object oriented modeling and design. Also discuss stages of OMT.   **7**

OR

2. a)   Explain aggregation in detail. Also define what are recursive aggregates with example.   **7**

b)   Write a note on following.   **7**
i)   Link   ii)   Association
iii) Multiplicity   iv)   Propagation of operation
v)   Abstract class   vi)   Metadata

3. a)   Define dynamic modelling. Explain components of state diagrams in detail.   **8**

b)   Draw the state diagram of traffic light at an intersection. One pair of electric eyes checks the north-south left turn lanes ; another pair checks the east west turn lanes. If no cars is in north-south and or east-west turn lanes then traffic control logic be smart to skip left turn portion of cycle.   **5**

OR

4. a)   What are nested state diagram. Explain with example.   **7**

b)   Draw the data flow diagram of computing volume & surface area of cylinder.   **6**

5. a)   Enlist the steps that are performed for constructing an object model. Explain how to identify object classes while constructing object model.   **7**

b)   Discuss the criteria for discarding unnecessary and incorrect associations.   **6**

www.solveout.in

6. a) Prepare a event trace and scenario of ATM. 5

b) Explain the steps that are performed while constructing functional model. 8

7. a) Write a note on breaking a system in subsystems. 7

b) What are advantages and disadvantages of using a database. 6

OR

8. a) Write a short note on : 6
   i) Handling global resources
   ii) Choosing software control implementation.

b) Explain the issues that must be addressed while handling boundary conditions. 7

9. a) Explain the issues which must be considered while choosing among alternative algorithm. 6

b) Explain the technique of converting a state diagram to code. Also write the pseudo code for ATM control. 7

OR

10. a) Explain the kinds of adjustments that can be used to increase the chances of inheritances. 7

b) What are one-way and two-way associations implementation. 6

11. a) Define extensibility. Also discuss the principles to enhance extensibility. 7

b) Define Reusability. What are kinds of reusability. Discuss the style rules for reusability. 7

OR

12. Write a note on **any three.** 14

   i) Implementation using programming language.

   ii) Robustness

   iii) Programming in the large

   iv) Implementation using database system.

****